

**TDMS No.** 20407 - 02

**Test Type:** 90-DAY

**Route:** RESPIRATORY EXPOSURE NASAL

**Species/Strain:** MICE/B6C3F1

**P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL**

Nanoscale material (Fullerene-C60 50 nanometers)

**CAS Number:** 99685-96-8

**Date Report Requested:** 03/19/2010

**Time Report Requested:** 08:55:31

**First Dose M/F:** 11/05/07 / 11/05/07

**Lab:** BNW

F1\_M3

**C Number:** C20407

**Lock Date:** 02/24/2009

**Cage Range:** ALL

**Date Range:** ALL

**Reasons For Removal:** ALL

**Removal Date Range:** ALL

**Treatment Groups:** Include ALL

**Study Gender:** Both

**TDMSE Version:** 2.2.0

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First Dose M/F: 11/05/07 / 11/05/07

Lab: BNW

B6C3F1 MICE MALE	0 mg/m <sup>3</sup>	DAY ON TEST	0	0	0	0	0	0	0	0	0	0
			0	0	0	0	0	0	0	0	0	0
ANIMAL ID		9	9	9	9	9	9	9	9	9	9	9
		0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	1
		1	2	3	4	5	6	7	8	9	0	
		* TOTALS										

**ALIMENTARY SYSTEM**

Esophagus	+	+	+	+	+	+	+	+	+	+	+	10
Gallbladder	+	+	+	+	+	+	+	+	M	+		9
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+		10
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+		10
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+		10
Parasite Metazoan		1										1 1.0
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+		10
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+		10
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+		10
Liver	+	+	+	+	+	+	+	+	+	+		10
Pancreas	+	+	+	+	+	+	+	+	+	+		10
Salivary Glands	+	+	+	+	+	+	+	+	+	+		10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+		10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+		10

**CARDIOVASCULAR SYSTEM**

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

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Lab: BNW

B6C3F1 MICE MALE	0 mg/m <sup>3</sup>	DAY ON TEST													* TOTALS
			0 0 9 0												
		ANIMAL ID	1 0 0 0 0 1	2 0 0 0 0 2	3 0 0 0 0 3	4 0 0 0 0 4	5 0 0 0 0 5	6 0 0 0 0 6	7 0 0 0 0 7	8 0 0 0 0 8	9 0 0 0 0 9	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	* TOTALS
Blood Vessel			+ + + M	+ + + + + + + +											9
Heart			+ + + + + + + + +												10
<b>ENDOCRINE SYSTEM</b>															
Adrenal Cortex			+ + + + + + + + +												10
Adrenal Medulla			+ + + + + + + + +												10
Islets, Pancreatic			+ + + + + + + + +												10
Parathyroid Gland			M M M M + + + + M												5
Pituitary Gland			+ + + + + + + + +												10
Thyroid Gland			+ + + + + + + + +												10
<b>GENERAL BODY SYSTEM</b>															
NONE															
<b>GENITAL SYSTEM</b>															
Epididymis			+ + + + + + + + +												10
Preputial Gland			+ + + + + + + + +												10
Prostate			+ + + + + + M + +												9
Seminal Vesicle			+ + + + + + + + +												10

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First Dose M/F: 11/05/07 / 11/05/07

Lab: BNW

B6C3F1 MICE MALE	0 mg/m <sup>3</sup>	DAY ON TEST													* TOTALS
			0 0 9 0												
		ANIMAL ID	1 0 0 0 0 1	2 0 0 0 0 2	3 0 0 0 0 3	4 0 0 0 0 4	5 0 0 0 0 5	6 0 0 0 0 6	7 0 0 0 0 7	8 0 0 0 0 8	9 0 0 0 0 9	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	* TOTALS
Testes			+ + + + + + + + + +												10
<b>HEMATOPOIETIC SYSTEM</b>															
Bone Marrow			+ + + + + + + + + +												10
Lymph Node, Bronchial			+ + + + + + M + + +												9
Lymph Node, Mandibular			+ + + + + M M M + +												7
Lymph Node, Mediastinal			M M M M M M M M M M												0
Lymph Node, Mesenteric			+ + + + + + + + + +												10
Spleen			+ + + + + + + + + +												10
Thymus			+ + + + + + + + + +												10
<b>INTEGUMENTARY SYSTEM</b>															
Mammary Gland			M M M M M M M M M M												0
Skin			+ + + + + + + + + +												10
<b>MUSCULOSKELETAL SYSTEM</b>															
Bone			+ + + + + + + + + +												10
<b>NERVOUS SYSTEM</b>															
Brain			+ + + + + + + + + +												10

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Time Report Requested: 08:55:31

First Dose M/F: 11/05/07 / 11/05/07

Lab: BNW

		DAY ON TEST									
		ANIMAL ID									
<b>B6C3F1 MICE MALE</b>		0 0 0 0 0 0 0 0 0 0									
<b>0 mg/m<sup>3</sup></b>		0 0 0 0 0 0 0 0 0 0									
		0 0 0 0 0 0 0 0 0 0									
		0 0 0 0 0 0 0 0 0 0									
		1 2 3 4 5 6 7 8 9 0									

**\* TOTALS****RESPIRATORY SYSTEM**

Larynx	+	I	+	+	+	+	+	+	+	+	9
Lung	+	+	+	+	+	+	+	+	+	+	10
Nose	+	+	+	+	+	+	+	+	+	+	10
Trachea	+	+	+	+	+	+	+	+	+	+	10

**SPECIAL SENSES SYSTEM**

Eye	+	+	+	+	+	+	+	+	+	+	10
Harderian Gland	+	+	+	+	+	+	+	+	+	+	10

**URINARY SYSTEM**

Kidney	+	+	+	+	+	+	+	+	+	+	10
Renal Tubule, Regeneration	1	1	1								4 1.0
Urinary Bladder	+	+	+	+	+	+	+	+	+	+	10

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First Dose M/F: 11/05/07 / 11/05/07

Lab: BNW

		DAY ON TEST											
		0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0
		9	9	9	9	9	9	9	9	9	9	9	9
		0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0
		2	2	2	2	2	2	2	2	2	2	2	2
		0	0	0	0	0	0	0	0	0	0	0	1
		1	2	3	4	5	6	7	8	9	0	0	0

\* TOTALS

### ALIMENTARY SYSTEM

NONE

### CARDIOVASCULAR SYSTEM

NONE

### ENDOCRINE SYSTEM

NONE

### GENERAL BODY SYSTEM

NONE

### GENITAL SYSTEM

NONE

### HEMATOPOIETIC SYSTEM

Lymph Node, Bronchial  
Pigmentation

+ M + + + + M + + M  
1 1

7  
2 1.0

### INTEGUMENTARY SYSTEM

NONE

### MUSCULOSKELETAL SYSTEM

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Species/Strain: MICE/B6C3F1

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First Dose M/F: 11/05/07 / 11/05/07

Lab: BNW

		DAY ON TEST									
		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
		9	9	9	9	9	9	9	9	9	9
		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
		2	2	2	2	2	2	2	2	2	2
		0	0	0	0	0	0	0	0	1	1
		1	2	3	4	5	6	7	8	9	0

\* TOTALS

NONE

**NERVOUS SYSTEM**

NONE

**RESPIRATORY SYSTEM**

Lung	+	+	+	+	+	+	+	+	+	+	+	10
Hemorrhage											1	1.0
Infiltration Cellular, Histiocyte											1	1.0
Pigmentation	1	1	1	1	1	1	1	1	1	1	1	10 1.0

**SPECIAL SENSES SYSTEM**

NONE

**URINARY SYSTEM**

NONE

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Species/Strain: MICE/B6C3F1

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Lab: BNW

B6C3F1 MICE MALE	2.0 mg/m <sup>3</sup>	DAY ON TEST										
			0 0 9 0									
ANIMAL ID											* TOTALS	
	0	0	0	0	0	0	0	0	0	0		
	0	0	0	0	0	0	0	0	0	0		
	4	4	4	4	4	4	4	4	4	4		
	0	0	0	0	0	0	0	0	0	1		
	1	2	3	4	5	6	7	8	9	0		

## ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	10
Gallbladder	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	10
Liver	+	+	+	+	+	+	+	+	+	+	10
Pancreas	+	+	+	+	+	+	+	+	+	+	10
Salivary Glands	+	+	+	+	+	+	+	+	+	+	10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	10

## CARDIOVASCULAR SYSTEM

Blood Vessel	+	+		+	+	+	+	+	+	M	8
--------------	---	---	--	---	---	---	---	---	---	---	---

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Species/Strain: MICE/B6C3F1

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Lab: BNW

B6C3F1 MICE MALE	2.0 mg/m <sup>3</sup>	DAY ON TEST											* TOTALS
			0 0 9 0										
		ANIMAL ID	0 0 4 0 1	0 0 4 0 2	0 0 4 0 3	0 0 4 0 4	0 0 4 0 5	0 0 4 0 6	0 0 4 0 7	0 0 4 0 8	0 0 4 0 9	0 0 4 0 0	
Heart			+	+	+	+	+	+	+	+	+	+	10
Infiltration Cellular, Mixed Cell						1							1 1.0

## ENDOCRINE SYSTEM

Adrenal Cortex	+	+	+	+	+	+	+	+	+	+	+	+	10
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+	+	+	10
Islets, Pancreatic	+	+	+	+	+	+	+	+	+	+	+	+	10
Parathyroid Gland	M	M	+	M	+	+	+	+	+	M	+		6
Pituitary Gland	+	+	+	+	+	+	+	+	+	+	M		9
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	+	+	10

## GENERAL BODY SYSTEM

NONE

## GENITAL SYSTEM

Epididymis	+	+	+	+	+	+	+	+	+	+	+	+	10
Preputial Gland	+	+	+	+	+	+	+	+	+	+	+	+	10
Prostate	+	+	+	+	+	+	+	+	+	+	+	+	10
Seminal Vesicle	+	+	+	+	+	+	+	+	+	+	+	+	10

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Species/Strain: MICE/B6C3F1

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B6C3F1 MICE MALE	2.0 mg/m3	DAY ON TEST											* TOTALS
			0 0 9 0										
		ANIMAL ID	0 0 4 0 1	0 0 4 0 2	0 0 4 0 3	0 0 4 0 4	0 0 4 0 5	0 0 4 0 6	0 0 4 0 7	0 0 4 0 8	0 0 4 0 9	0 0 4 0 0	
Testes			+ + + + + + + + + +										10
<b>HEMATOPOIETIC SYSTEM</b>													
Bone Marrow			+ + + + + + + + + +										10
Lymph Node, Bronchial Pigmentation			M M + M + + + + + +										7
			1 1 1 1 1 1 1 1 1 1										5 1.0
Lymph Node, Mandibular			+ + M + M + + + + +										8
Lymph Node, Mediastinal			M M + M M M M + M M										2
Lymph Node, Mesenteric			+ + + + + + + + + +										10
Spleen			+ + + + + + + + + +										10
Thymus			+ + + + + + + + + +										10
<b>INTEGUMENTARY SYSTEM</b>													
Mammary Gland			M M M M M M M M M M										0
Skin			+ + + + + + + + + +										10
<b>MUSCULOSKELETAL SYSTEM</b>													
Bone			+ + + + + + + + + +										10
<b>NERVOUS SYSTEM</b>													

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B6C3F1 MICE MALE	2.0 mg/m <sup>3</sup>	DAY ON TEST											* TOTALS
			0 0 9 0										
		ANIMAL ID	0 0 4 0 1	0 0 4 0 2	0 0 4 0 3	0 0 4 0 4	0 0 4 0 5	0 0 4 0 6	0 0 4 0 7	0 0 4 0 8	0 0 4 0 9	0 0 4 0 0	
Brain			+ + + + + + + + + +										10
<b>RESPIRATORY SYSTEM</b>													
Larynx			+ + + + + + + + + +										10
Lung			+ + + + + + + + + +										10
Infiltration Cellular, Histiocyte			2 1 1 2 1 1 1 1 1 1										10 1.2
Inflammation, Chronic Active			1										1 1.0
Pigmentation			2 1 1 2 1 1 1 1 1 1										10 1.2
Nose			+ + + + + + + + + +										10
Trachea			+ + + + + + + + + +										10
<b>SPECIAL SENSES SYSTEM</b>													
Eye			+ + + + + + + + + +										10
Harderian Gland			+ + + + + + + + + +										10
<b>URINARY SYSTEM</b>													
Kidney			+ + + + + + + + + +										10
Casts Protein			1 1										1 1.0
Renal Tubule, Regeneration			1 1										2 1.0
Urinary Bladder			+ + + + + + + + + +										10

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**TDMS No.** 20407 - 02

**Test Type:** 90-DAY

**Route:** RESPIRATORY EXPOSURE NASAL

**Species/Strain:** MICE/B6C3F1

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\*\*\* END OF MALE DATA \*\*\*

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TDMS No. 20407 - 02

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Route: RESPIRATORY EXPOSURE NASAL

Species/Strain: MICE/B6C3F1

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Lab: BNW

B6C3F1 MICE FEMALE	0 mg/m <sup>3</sup>	DAY ON TEST	0	0	0	0	0	0	0	0	0	0
			0	0	0	0	0	0	0	0	0	0
ANIMAL ID			9	9	9	9	9	9	9	9	9	9
			0	0	0	0	0	0	0	0	0	0
			0	0	0	0	0	0	0	0	0	0
			0	0	0	0	0	0	0	0	0	0
			1	1	1	1	1	1	1	1	1	1
			0	0	0	0	0	0	0	0	0	1
			1	2	3	4	5	6	7	8	9	0

\* TOTALS

## ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	+	10
Gallbladder	+	M	+	+	+	+	M	+	+	+	+	8
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	+	10
Liver	+	+	+	+	+	+	+	+	+	+	+	10
Pancreas	+	+	+	+	+	+	+	+	+	+	+	10
Salivary Glands	+	+	+	+	+	+	+	+	+	+	+	10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	+	10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	+	10

## CARDIOVASCULAR SYSTEM

Blood Vessel	+	+	+	+	+	+	+	+	+	+	+	10
--------------	---	---	---	---	---	---	---	---	---	---	---	----

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

M .. Missing tissue

X .. Lesion present

A .. Autolysis precludes evaluation

I .. Insufficient tissue

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20407 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE NASAL

Species/Strain: MICE/B6C3F1

## P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Nanoscale material (Fullerene-C60 50 nanometers)

CAS Number: 99685-96-8

Date Report Requested: 03/19/2010

Time Report Requested: 08:55:31

First Dose M/F: 11/05/07 / 11/05/07

Lab: BNW

B6C3F1 MICE FEMALE	0 mg/m <sup>3</sup>	DAY ON TEST											* TOTALS	
			0 0 9 0											
ANIMAL ID													* TOTALS	
Heart			+	+	+	+	+	+	+	+	+	+	10	
Infiltration Cellular, Mixed Cell													1 1.0	
<b>ENDOCRINE SYSTEM</b>														
Adrenal Cortex			+	+	+	+	+	+	+	+	+	+	10	
Adrenal Medulla			+	+	+	+	+	+	+	+	+	+	10	
Islets, Pancreatic			+	+	+	+	+	+	+	+	+	+	10	
Parathyroid Gland			+	M	+	M	+	M	+	+	+	M	6	
Pituitary Gland			+	+	+	+	M	+	+	+	+	+	9	
Thyroid Gland			+	+	+	+	+	+	+	+	+	+	10	
<b>GENERAL BODY SYSTEM</b>														
NONE														
<b>GENITAL SYSTEM</b>														
Clitoral Gland			+	+	I	M	+	+	+	+	+	+	8	
Ovary			+	+	+	+	+	+	+	+	+	+	10	
Uterus			+	+	+	+	+	+	+	+	+	+	10	
<b>HEMATOPOIETIC SYSTEM</b>														

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

M .. Missing tissue

X .. Lesion present

A .. Autolysis precludes evaluation

I .. Insufficient tissue

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20407 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE NASAL

Species/Strain: MICE/B6C3F1

**P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL**

Nanoscale material (Fullerene-C60 50 nanometers)

CAS Number: 99685-96-8

Date Report Requested: 03/19/2010

Time Report Requested: 08:55:31

First Dose M/F: 11/05/07 / 11/05/07

Lab: BNW

B6C3F1 MICE FEMALE	0 mg/m <sup>3</sup>	DAY ON TEST											* TOTALS		
			0 0 9 0	0 0 9 0	0 0 9 0	0 0 9 0	0 0 9 0	0 0 9 0	0 0 9 0	0 0 9 0	0 0 9 0	0 0 9 0			
ANIMAL ID			0 0 1 0 1	0 0 1 0 2	0 0 1 0 3	0 0 1 0 4	0 0 1 0 5	0 0 1 0 6	0 0 1 0 7	0 0 1 0 8	0 0 1 0 9	0 0 1 0 0			
			Bone Marrow	+	+	+	+	+	+	+	+	+	10		
			Lymph Node, Bronchial Pigmentation	+	+	+	+	+	+	+	+	+	1	10 2 1.0	
			Lymph Node, Mandibular	M	+	+	+	M	+	+	+	+	+	8	
			Lymph Node, Mediastinal	M	M	M	M	M	M	M	M	M	M	2	
			Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+	10	
			Spleen	+	+	+	+	+	+	+	+	+	+	10	
			Thymus	+	+	+	+	+	+	+	+	+	+	10	
<b>INTEGUMENTARY SYSTEM</b>															
Mammary Gland			+	+	+	+	+	+	+	+	+	+	10		
Skin			+	+	+	+	+	+	+	+	+	+	10		
<b>MUSCULOSKELETAL SYSTEM</b>															
Bone			+	+	+	+	+	+	+	+	+	+	10		
<b>NERVOUS SYSTEM</b>															
Brain			+	+	+	+	+	+	+	+	+	+	10		
<b>RESPIRATORY SYSTEM</b>															

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20407 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE NASAL

Species/Strain: MICE/B6C3F1

## P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Nanoscale material (Fullerene-C60 50 nanometers)

CAS Number: 99685-96-8

Date Report Requested: 03/19/2010

Time Report Requested: 08:55:31

First Dose M/F: 11/05/07 / 11/05/07

Lab: BNW

B6C3F1 MICE FEMALE	0 mg/m <sup>3</sup>	DAY ON TEST											* TOTALS
			0 0 9 0	0 0 9 0	0 0 9 0								
ANIMAL ID	0 0 1 0 1	0 0 1 0 2	0 0 1 0 3	0 0 1 0 4	0 0 1 0 5	0 0 1 0 6	0 0 1 0 7	0 0 1 0 8	0 0 1 0 9	0 0 1 0 0			
Larynx	+ + + + + + + + + +										10		
Lung	+ + + + + + + + + +										10		
Infiltration Cellular, Histiocyte											1 1.0		
Perivascular, Infiltration Cellular, Mixed Cell											1 2.0		
Nose	+ + + + + + + + + +										10		
Trachea	+ + + + + + + + + +										10		
<b>SPECIAL SENSES SYSTEM</b>													
Eye	+ + + + + + + + + +										10		
Harderian Gland	+ + + + + + + + + +										10		
<b>URINARY SYSTEM</b>													
Kidney	+ + + + + + + + + +										10		
Renal Tubule, Regeneration											2 1.5		
Urinary Bladder	+ + + + + + + + + +										10		

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20407 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE NASAL

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Nanoscale material (Fullerene-C60 50 nanometers)

CAS Number: 99685-96-8

Date Report Requested: 03/19/2010

Time Report Requested: 08:55:31

First Dose M/F: 11/05/07 / 11/05/07

Lab: BNW

		DAY ON TEST											
		0	0	0	0	0	0	0	0	0	0	0	0
B6C3F1 MICE FEMALE		0	0	0	0	0	0	0	0	0	0	0	0
0.5 mg/m3		0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0
		3	3	3	3	3	3	3	3	3	3	3	3
		0	0	0	0	0	0	0	0	0	0	0	1
		1	2	3	4	5	6	7	8	9	0	0	0
* TOTALS													

### ALIMENTARY SYSTEM

NONE

### CARDIOVASCULAR SYSTEM

NONE

### ENDOCRINE SYSTEM

NONE

### GENERAL BODY SYSTEM

NONE

### GENITAL SYSTEM

NONE

### HEMATOPOIETIC SYSTEM

Lymph Node, Bronchial  
Pigmentation

+ M + + + + I + M +  
1 1 1 1 1 1 1 1 1

7  
3 1.0

### INTEGUMENTARY SYSTEM

NONE

### MUSCULOSKELETAL SYSTEM

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20407 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE NASAL

Species/Strain: MICE/B6C3F1

## P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Nanoscale material (Fullerene-C60 50 nanometers)

CAS Number: 99685-96-8

Date Report Requested: 03/19/2010

Time Report Requested: 08:55:31

First Dose M/F: 11/05/07 / 11/05/07

Lab: BNW

		DAY ON TEST																							
		ANIMAL ID																							
B6C3F1 MICE FEMALE		0.5 mg/m <sup>3</sup>																							
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1	2	3	4	5	6	7	8	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

\* TOTALS

NONE

## NERVOUS SYSTEM

NONE

## RESPIRATORY SYSTEM

Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10		
Pigmentation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	
Artery, Inflammation, Chronic Active																									1	1.0

## SPECIAL SENSES SYSTEM

NONE

## URINARY SYSTEM

NONE

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20407 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE NASAL

Species/Strain: MICE/B6C3F1

**P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL**

Nanoscale material (Fullerene-C60 50 nanometers)

CAS Number: 99685-96-8

Date Report Requested: 03/19/2010

Time Report Requested: 08:55:31

First Dose M/F: 11/05/07 / 11/05/07

Lab: BNW

B6C3F1 MICE FEMALE	2.0 mg/m3	DAY ON TEST	0	0	0	0	0	0	0	0	0	0
			0	0	0	0	0	0	0	0	0	0
ANIMAL ID		9	9	9	9	9	9	9	9	9	9	9
		0	0	0	0	0	0	0	0	0	0	0
* TOTALS												

**ALIMENTARY SYSTEM**

Esophagus	+	+	+	+	+	+	+	+	+	+	+	10
Gallbladder	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	+	10
Liver Eosinophilic Focus	+	+	+	+	+	+	+	+	+	+	+	10
	1											1 1.0
Pancreas	+	+	+	+	+	+	+	+	+	+	+	10
Salivary Glands	+	+	+	+	+	+	+	+	+	+	+	10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	+	10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	+	10

**CARDIOVASCULAR SYSTEM**

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

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A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20407 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE NASAL

Species/Strain: MICE/B6C3F1

## P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Nanoscale material (Fullerene-C60 50 nanometers)

CAS Number: 99685-96-8

Date Report Requested: 03/19/2010

Time Report Requested: 08:55:31

First Dose M/F: 11/05/07 / 11/05/07

Lab: BNW

B6C3F1 MICE FEMALE	2.0 mg/m <sup>3</sup>	DAY ON TEST													* TOTALS
			0 0 9 0	0 0 9 0	0 0 9 0										
		ANIMAL ID	0 0 5 0 1	0 0 5 0 2	0 0 5 0 3	0 0 5 0 4	0 0 5 0 5	0 0 5 0 6	0 0 5 0 7	0 0 5 0 8	0 0 5 0 9	0 0 5 0 0			
Blood Vessel			+ + + + + + + + + +												10
Heart			+ + + + + + + + + +												10
<b>ENDOCRINE SYSTEM</b>															
Adrenal Cortex			+ + + + + + + + + +												10
Adrenal Medulla			+ + + + + + + + + +												10
Islets, Pancreatic			+ + + + + + + + + +												10
Parathyroid Gland			+ + + M + + + + + +												9
Pituitary Gland			+ + + + + + + + + +												10
Thyroid Gland			+ + + + + + + + + +												10
<b>GENERAL BODY SYSTEM</b>															
NONE															
<b>GENITAL SYSTEM</b>															
Clitoral Gland			M M + + M + M + + +												6
Ovary			+ + + + + + + + + +												10
Infiltration Cellular, Histiocyte			1												1 1.0
Pigmentation			2												1 2.0
Uterus			+ + + + + + + + + +												10

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20407 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE NASAL

Species/Strain: MICE/B6C3F1

## P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Nanoscale material (Fullerene-C60 50 nanometers)

CAS Number: 99685-96-8

Date Report Requested: 03/19/2010

Time Report Requested: 08:55:31

First Dose M/F: 11/05/07 / 11/05/07

Lab: BNW

		DAY ON TEST									
		ANIMAL ID									
<b>B6C3F1 MICE FEMALE</b>		0 0 0 0 0 0 0 0 0 0									
<b>2.0 mg/m3</b>		0 0 0 0 0 0 0 0 0 0									
		9 9 9 9 9 9 9 9 9 9									
		0 0 0 0 0 0 0 0 0 0									
		0 0 0 0 0 0 0 0 0 0									
		5 5 5 5 5 5 5 5 5 5									
		0 0 0 0 0 0 0 0 0 1									
		1 2 3 4 5 6 7 8 9 0									

\* TOTALS

**HEMATOPOIETIC SYSTEM**

Bone Marrow	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Bronchial Pigmentation	+	+	+	+	+	+	+	+	+	+	10
	1		1	1		1					4 1.0
Lymph Node, Mandibular	+	+	+	+	+	+	+	+	M	+	9
Lymph Node, Mediastinal	+	M	M	M	+	M	M	M	M	M	2
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+	10
Spleen	+	+	+	+	+	+	+	+	+	+	10
Thymus	+	+	+	+	+	+	+	+	+	+	10

**INTEGUMENTARY SYSTEM**

Mammary Gland	+	+	+	+	+	+	+	+	+	+	10
Skin	+	+	+	+	+	+	+	+	+	+	10

**MUSCULOSKELETAL SYSTEM**

Bone	+	+	+	+	+	+	+	+	+	+	10
------	---	---	---	---	---	---	---	---	---	---	----

**NERVOUS SYSTEM**

Brain	+	+	+	+	+	+	+	+	+	+	10
-------	---	---	---	---	---	---	---	---	---	---	----

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20407 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE NASAL

Species/Strain: MICE/B6C3F1

## P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Nanoscale material (Fullerene-C60 50 nanometers)

CAS Number: 99685-96-8

Date Report Requested: 03/19/2010

Time Report Requested: 08:55:31

First Dose M/F: 11/05/07 / 11/05/07

Lab: BNW

		DAY ON TEST											
		ANIMAL ID											
B6C3F1 MICE FEMALE		0	0	0	0	0	0	0	0	0	0	0	0
2.0 mg/m3		0	0	0	0	0	0	0	0	0	0	0	0
		9	9	9	9	9	9	9	9	9	9	9	9
		0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0
		5	5	5	5	5	5	5	5	5	5	5	5
		0	0	0	0	0	0	0	0	0	0	1	
		1	2	3	4	5	6	7	8	9	0		

\* TOTALS

## RESPIRATORY SYSTEM

Larynx	+	+	+	+	+	+	+	+	+	+	+	+	10
Lung	+	+	+	+	+	+	+	+	+	+	+	+	10
Hemorrhage													1 1.0
Infiltration Cellular, Histiocyte													8 1.0
Pigmentation	1	1	1	1	1	1	1	1	1	1	1	1	10 1.0
Nose	+	+	+	+	+	+	+	+	+	+	+	+	10
Trachea	+	+	+	+	+	+	+	+	+	+	+	+	10

## SPECIAL SENSES SYSTEM

Eye	+	+	+	+	+	+	+	+	+	+	+	+	10
Harderian Gland	+	+	+	+	+	+	+	+	+	+	+	+	10

## URINARY SYSTEM

Kidney	+	+	+	+	+	+	+	+	+	+	+	+	10
Casts Protein													1 1.0
Inflammation, Chronic Active													1 4.0
Renal Tubule, Regeneration	4												1 1.0
Urinary Bladder	+	+	+	+	+	+	+	+	+	+	+	+	10

\*\*\* END OF REPORT \*\*\*

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked